

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) At a computing device having a normal installation behavior for use during a software update installation, the normal installation behavior including a normal user-interface behavior and a normal download behavior used when installing a standard software update, the normal user-interface behavior including presenting a description of a software update and a user-interface control for selecting installation of the software update if desired, the normal download behavior including downloading software updates in the background to minimize the impact on network bandwidth~~[[A]]~~ a computer implemented method for controlling-modifying the normal installation behaviors-of ~~[[a-]]~~ the computing device during a software update installation, the computer implemented method comprising:

obtaining software update information to be installed on the computing device, the software update information comprising a software update, a rule for applicability of the software update, and an installation attribute, the installation attribute indicating that normal installation behavior at the computing device is to be modified for controlling-the-installation of the software update, the modified installation behavior indicating a modification to one of the normal user-interface behavior and the normal download behavior used when installing a standard update; and

determining whether-that the software update is applicable to the computing device based on the rule for applicability and if so in response to the determination:

selectively-modifying the normal installation behavior of-at the computing device according to the installation attribute to modify at least one of the normal user-interface behavior and normal download behavior used when installing a standard update; and

installing the software update on the client-computer computing device according to the modified installation behavior.

2. (Currently Amended) The method of Claim 1, wherein the installation attribute comprises a mandatory installation attribute; and

wherein ~~selectively~~-modifying the normal installation behavior of the computing device according to the mandatory installation attribute comprises ~~disallowing the user of the computing device to selectively not install~~requiring the software update be installed on the computing device and providing a visual indication in the user-interface that a user is unable to unselect installation of the software update.

3. (Currently Amended) The method of Claim 1, wherein the installation attribute ~~associated with the software update~~ comprises a priority installation attribute; and

wherein ~~selectively~~-modifying the normal installation behavior of the computing device according to the priority installation attribute comprises ~~temporarily increasing the~~modifying the standard download behavior to permit the download process downloading the software update to compete with other network activities on a current connection so that as much network bandwidth request for as possible is used when downloading the software update's content so as to download the software update more quickly over the current connection.

4. (Currently Amended) The method of Claim 1, wherein the installation attribute comprises a deadline installation attribute; and

wherein ~~selectively~~-modifying the normal installation behavior of the computing device according to the deadline installation attribute comprises:

~~determining whether that~~ the deadline for the deadline installation attribute has passed, and if ~~so in response to the determination, requiring the software update to be installed on the computing device and modifying the standard user-interface behavior to~~ automatically install[[ing]] the software update without further user interaction.

5. (Currently Amended) The method of Claim 1, wherein the installation attribute ~~associated with the software update~~ comprises a zero system interruption (ZSI) installation attribute, ~~the ZSI attribute indicating that the software update is a ZSI software update configured so as to not cause any software interruptions during installation; and~~

wherein ~~selectively~~ modifying the normal installation behavior of the computing device according to the ZSI installation attribute ~~if it is determined that a ZSI installation attribute is associated with the software update~~ comprises:

determining ~~whether that~~ the computing device is configured ~~to~~ for automatic installation of ZSI software updates, and ~~if so~~ in response to the determination, automatically installing the software update without further user interaction.

6. (Currently Amended) A computer program product for use at a computing device, the computing device having a normal installation behavior for use during a software update installation, the normal installation behavior including a normal user-interface behavior and a normal download behavior used when installing a standard software update, the normal user-interface behavior including presenting a description of a software update and a user-interface control for selecting installation of the software update if desired, the normal download behavior including downloading software updates in the background to minimize the impact on network bandwidth, the computer program product comprising A a computer-readable medium having stored there computer-executable instructions which, when executed at a processor, cause the on-a-client computing device, early-out to implement a method for controlling-modifying the normal installation behaviors of the computing device during a software update installation, the method comprising the steps of:

obtaining software update information to be installed on the computing device, the software update information comprising a software update, a rule for the applicability of the software update, and an installation attribute, the installation attribute indicating that normal installation behavior at the computing device is to be modified operable for controlling-the-installation of the software update, the modified installation behavior indicating a modification to one of the normal user-interface behavior and the normal download behavior used when installing a standard update; and

~~determining whether the sweep date is applicable to the client computing device, and if so:~~

determining that the software update is applicable to the computing device based on the rule for applicability, and in response to the determination:

~~selectively-modifying the normal installation behavior of-at the computing device according to the installation attribute to modify at least one of the normal user-interface behavior and normal download behavior used when installing a standard update;~~ and

installing the software update on the ~~client computer~~ computing device according to the modified installation behavior.

7. (Currently Amended) The computer~~[[readable medium]]~~ program product of Claim 6, wherein the installation attribute ~~associated with the software update~~ comprises a mandatory installation attribute; and

wherein selectively modifying the normal installation behavior of the computing device according to the mandatory installation attribute comprises ~~disallowing the user of the computing device to selectively not install~~ requiring the software update to be installed on the computing device and providing a visual indication in the user-interface that a user is unable to unselect installation of the software update.

8. (Currently Amended) The computer~~[[readable medium]]~~ program product of Claim 6, wherein the installation attribute ~~associated with the software update~~ comprises a priority installation attribute; and

wherein ~~selectively~~-modifying the normal installation behavior of the computing device according to the priority installation attribute comprises ~~temporarily-increasing~~ modifying the standard download behavior to permit the download process downloading the software update to compete with other network activities on a current connection so that as much the network bandwidth request for as possible is used when downloading the software update's content so as to download the software update more quickly over the current connection.

9. (Currently Amended) The computer~~[[readable medium]]~~ program product of Claim 6, wherein the installation attribute associated with the software update comprises a deadline installation attribute; and

wherein ~~selectively~~-modifying the normal installation behavior of the computing device according to the deadline installation attribute comprises:

determining whether that the deadline for the deadline installation attribute has passed, and if so in response to the determination, requiring the software update to be installed on the computing device and modifying the standard user-interface behavior to automatically install[[ing]] the software update without further user interaction.

10. (Currently Amended) The computer~~[[readable medium]]~~ program product of Claim 6, wherein the installation attribute ~~associated with the software update~~ comprises a zero system interruption (ZSI) installation attribute, the ZSI attribute indicating that the software update is a ZSI software update configured so as to not cause any software interruptions during installation; and

wherein ~~selectively~~ modifying the normal installation behavior of the computing device according to the ZSI installation attribute comprises:

determining ~~whether~~ that the computing device is configured ~~to~~ for automatic installation of ZSI software updates, and ~~if so~~ in response to the determination, automatically installing the software update without further user interaction.

11. (Currently Amended) At a computing device having a normal installation behavior for use during a software update installation, the normal installation behavior including a normal user-interface behavior and a normal download behavior used when installing a standard software update, the normal user-interface behavior including presenting a description of a software update and a user-interface control for selecting installation of the software update if desired, the normal download behavior including downloading software updates in the background to minimize the impact on network bandwidth, [[A]] a computer implemented method for controlling modifying the normal installation behaviors of [[a]] the computing device during a software update installation according to associated installation attributes, the computer implemented method comprising the steps of:

obtaining software update information to be installed on the computing device, the software update information comprising a software update, a rule for the applicability of the software update, and an installation attribute operable for controlling the installation of the software update;

determining whether the installation attribute is a mandatory installation attribute, and if so, requiring the software update to be installed and modifying the standard user-interface installation behavior of the computing device to provide a visual indication in the user-interface that the user is unable to unselect installation of with respect to the software update such that the user of the computing device is prevented from selectively not installing the software update on the computing device;

determining whether the installation attribute is a priority installation attribute, and if so, modifying the standard download installation behavior of the computing device to permit the download process downloading the software update to compete with other network activities on a current connection so that as much with respect to the software update by temporarily increasing the network bandwidth as possible is used request for when downloading the software update's content so as to download the software update more quickly over the current connection;

determining whether the installation attribute is a deadline installation attribute, and if so, determining whether the corresponding deadline of the deadline attribute has expired, and if so, requiring the software update to be installed and modifying the standard user-interface installation behavior of the computing device to provide a visual indication in the user-interface that the user is unable to unselect installation of with respect to the software update such that the software update will

~~be automatically installed on the computing device without user interaction if a deadline corresponding to the deadline installation attribute has passed;~~

determining whether the installation attribute is a zero service interruption (ZSI) installation attribute, and if so, modifying the normal installation behavior of the computing device with respect to the software update such that the software update will be automatically installed on the computing device without user interaction if the computing device is properly configured; and

installing the update on the client computer according to the modified installation behavior.

12. (New). The method as recited in claim 1, further comprising:

authenticating with an software update service prior to obtaining the software update information, authentication including:

sending a configuration request message to the software update service;

receiving an indication that software update service includes a server side authorization plug-in corresponding to a target group of client computing devices;

determining that the computing device includes a client side authorization plug-in corresponding to the server side authorization plug-in;

sending an authorization cookie to the software update service in response to the determination, the authorization cookie identifying the target group of client computing devices; and

receiving a server cookie from the software update service containing an identifier for the a target group of client computing devices; and

storing the server cookie at the client device such that the client device can use the server cookie to indicate membership in the target group of client computing devices.

13. (New) The method as recited in claim 12, wherein obtaining software update information to be installed on the computing device comprises determining that the software update is targeted to the target group of client computing devices.

14. (New) The method as recited in claim 1, further comprising

synchronizing available updates with a software update service, including traversing a software update hierarchy to identify specific software updates that apply to the computing device, the software update hierarchy including at least a base set of one or more base updates and a second set of one or more second tier updates, wherein

(i) each base update includes one or more applicability conditions to be tested at the computing device to determine if the base update is applicable to the computing device; and

(ii) each second tier update includes: (a) one or more applicability conditions to be tested at the computing device to determine if the second tier update is applicable to the computing device, (b) prerequisites identifying one or more base updates that are required for proper installation of the second tier update, and (c) an indicator of whether or not the second tier update is a leaf update.

15. (New) The method as recited in claim 14, wherein obtaining software update information to be installed on the computing device comprises receiving a selection of one or more software updates from among the identified specific software updates that apply to the computing device.

16. (New) The method as recited in claim 1, wherein modifying the normal installation behavior at the computing device according to the installation attribute comprises modifying a background download process that normally determines the computing device's network usage and makes download requests for software updates based on available remaining bandwidth.

17. (New). The method as recited in claim 11, further comprising:
authenticating with an software update service prior to obtaining the software update information, authentication including:

sending a configuration request message to the software update service;

receiving an indication that software update service includes a server side authorization plug-in corresponding to a target group of client computing devices;

determining that the computing device includes a client side authorization plug-in corresponding to the server side authorization plug-in;

sending an authorization cookie to the software update service in response to the determination, the authorization cookie identifying the target group of client computing devices; and

receiving a server cookie from the software update service containing an identifier for the a target group of client computing devices; and

storing the server cookie at the client device such that the client device can use the server cookie to indicate membership in the target group of client computing devices.

18. (New) The method as recited in claim 17, wherein obtaining software update information to be installed on the computing device comprises determining that the software update is targeted to the target group of client computing devices.

19. (New) The method as recited in claim 11, further comprising subsequent to authenticating:

synchronizing available updates with a software update service, including traversing a software update hierarchy to identify specific software updates that apply to the computing device, the software update hierarchy including at least a base set of one or more base updates and a second set of one or more second tier updates, wherein

(i) each base update includes one or more applicability conditions to be tested at the computing device to determine if the base update is applicable to the computing device; and

(ii) each second tier update includes: (a) one or more applicability conditions to be tested at the computing device to determine if the second tier update is applicable to the computing device, (b) prerequisites identifying one or more base updates that are required for proper installation of the second tier update, and (c) an indicator of whether or not the second tier update is a leaf update.

20. (New) The method as recited in claim 19, wherein obtaining software update information to be installed on the computing device comprises receiving a selection of one or more software updates from among the identified specific software updates that apply to the computing device.